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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/065,215	09/26/2002	Anthony Gerald King	201-1280 FAM	8181
28549	7590	05/19/2004	EXAMINER	
KEVIN G. MIERZWA ARTZ & ARTZ, P.C. 28333 TELEGRAPH ROAD, SUITE 250 SOUTHFIELD, MI 48034			NGUYEN, HUNG T	
			ART UNIT	PAPER NUMBER
			2636	

DATE MAILED: 05/19/2004

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Please find below and/or attached an Office communication concerning this application or proceeding.

**Office Action Summary**

Application No.

10/065,215

Applicant(s)

KING, ANTHONY GERALD

Examiner

Hung T. Nguyen

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-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --  
Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

**Status**

- 1) ☒ Responsive to communication(s) filed on 09 March 2004.  
2a) ☒ This action is **FINAL**. 2b) ☐ This action is non-final.  
3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

**Disposition of Claims**

- 4) ☒ Claim(s) 1-20 is/are pending in the application.  
4a) Of the above claim(s) \_\_\_\_\_ is/are withdrawn from consideration.  
5) ☐ Claim(s) \_\_\_\_\_ is/are allowed.  
6) ☒ Claim(s) 1-20 is/are rejected.  
7) ☐ Claim(s) \_\_\_\_\_ is/are objected to.  
8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

**Application Papers**

- 9) ☐ The specification is objected to by the Examiner.  
10) ☐ The drawing(s) filed on \_\_\_\_\_ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.  
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).  
11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

**Priority under 35 U.S.C. § 119**

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).  
a) ☐ All b) ☐ Some \* c) ☐ None of:  
1. ☐ Certified copies of the priority documents have been received.  
2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.  
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

\* See the attached detailed Office action for a list of the certified copies not received.

**Attachment(s)**

- 1) ☒ Notice of References Cited (PTO-892)  
2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)  
3) ☐ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)  
Paper No(s)/Mail Date \_\_\_\_\_.  
4) ☐ Interview Summary (PTO-413)  
Paper No(s)/Mail Date. \_\_\_\_\_.  
5) ☐ Notice of Informal Patent Application (PTO-152)  
6) ☐ Other: \_\_\_\_\_.

## DETAILED ACTION

### *Claim Rejections - 35 USC § 103*

1. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

2. Claims 1-3, 5-7 & 9-16 are rejected under 35 U.S.C. 103(a) as being unpatentable over Kopischke (U.S. 6,359,553) in view of Bates et al. (U.S. 6,337,638) further in view of Brambilla et al. (U.S. 6,199,903).

Regarding claim 1, Kopischke discloses a collision system for an automobile [ fig.1,col.2, lines 20-28 and col.3, line 63 to col.4, line 23 ] comprising:

- object sensor (2) for detecting an object / obstacle (8) [ fig.1, col.2, lines 41-48 and col.3, line 63 to col.4, line 23 ];
- a controller (5) is connected to the object sensor (2) [ fig.1, col.2, lines 36-53 and col.4, lines 7-23 ];
- the controller (5) generating a collision signal indicative of a potential collision as the distance are determined between the vehicle & the object (8) [ fig.1, col.2, lines 36-53 ].

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Kopischke does not specifically mention the collision system having a device for determining motion properties of the object / obstacle.

Bates teaches a vehicle warning radar system (100) for collision includes a computer system (106) for determining / detecting (102,104) relative distances and speed of targeted vehicles (504,506) relate to a vehicle (100,502) [ figs.5-7, col.2, line 63 to col.3, line 59 and col.6, line 60 to col.7, line 11 ].

Therefore, it would have been obvious to one having ordinary skill in the art to employ the teaching of Bates in the system of Kopischke for detecting & determining an accurate motion signal of the object to prevent a collision between vehicle and obstacles.

The combination of Kopischke & Bates is still missing a new limitation as “kinetic energy” of the object as currently amended.

Brambilla teaches a function of the determined accident severity includes a control unit (2) is connected to a crash parameter detection system (6) for detecting the relative speed to the collision object shortly before the crash event. Based on a measured relative speed, in cases when the vehicle's own speed, a conclusion can be drawn that a vehicle is moving. On the basis of a typical vehicle mass, the kinetic energy of the colliding vehicle can be estimated [ fig.1, col.4, line 59 to col.5, line 12 ].

Therefore, it would have been obvious to one having ordinary skill in the art to have the teaching of Bates & Brambilla includes a kinetic energy function in the system of Kopischke which allows for determination of potential collision severity between the host vehicle and the target object more accurate and thereby further preventing injury.

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Regarding claim 2, Kopischke discloses the controller (5) and object sensor (2) may recognize whether object / obstacle as a vehicle or person or animal or some other object [ col.4, lines 7-23 ];

- the controller (5) generating a collision signal indicative of a potential collision as the distance are determined between the vehicle & the object (8) [ fig.1, col.2, lines 36-53 ]; and

to prevent a collision of the vehicle with a obstacle by producing a controlled acceleration / deceleration and the object can be seen through a CCD camera [ col.1, lines 24-41 ].

Furthermore, Bates discloses the vehicle warning radar system (100) for collision includes a computer system (106) for determining / detecting (102,104) relative distances and speed of targeted vehicles (504,506) relate to a vehicle (100,502) [ figs.5-7, col.2, line 63 to col.3, line 59 and col.6, line 60 to col.7, line 11 ].

Therefore, it would have been obvious to one having ordinary skill in the art to have the teaching of Bates in the system of Kopischke for controlling & preventing the collision between the obstacle and the vehicle.

Regarding claim 3, Bates discloses the vehicle warning radar system (100) for collision includes a computer system (106) for determining / detecting (102,104) relative distances and speed of targeted vehicles (504,506) relate to a vehicle (100,502) / momentum of the object [ figs.5-7, col.2, line 63 to col.3, line 59 and col.6, line 60 to col.7, line 11 ].

Regarding claim 5, Kopischke discloses the controller (5) and object sensor (2) may recognize whether object / obstacle as a vehicle or person or animal or some other objects in or near the

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direction of motion of the vehicle by using a radio signal for detecting them [ col.4, lines 7-23 and lines 52-61 ]; and

Bates discloses the vehicle warning radar system (100) for collision includes a computer system (106) for determining / detecting (102,104) relative distances and speed of targeted vehicles (504,506) relate to a vehicle (100,502) / momentum of the object [ figs.5-7, col.2, line 63 to col.3, line 51 and col.6, line 60 to col.7, line 11 ].

Regarding claim 6, Kopischke discloses the controller (5) and object sensor (2) may recognize whether object / obstacle as a vehicle or person or animal or some other object which contains shape , volume, height , width information of the objects [ col.4, lines 7-23 ].

Regarding claim 7, Kopischke discloses the controller (5) and object sensor (2) may recognize whether object / obstacle as a vehicle or person or animal or some other objects in or near the direction of motion of the vehicle by using a radio signal for detecting them [ col.4, lines 7-23 and lines 52-61 ]; and

Bates discloses the vehicle warning radar system (100) for collision includes a computer system (106) for determining / detecting (102,104) relative distances and speed of targeted vehicles (504,506) relate to a vehicle (100,502) / momentum of the object [ figs.5-7, col.3, lines 31-51].

Regarding claim 9, Kopischke discloses the collision system for an automobile [ fig.1,col.2, lines 20-28 and col.3, line 63 to col.4, line 23 ] comprising:

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- object sensor (2) for detecting an object / obstacle (8) [ fig.1, col.2, lines 41-48 and col.3, line 63 to col.4, line 23 ];
- a controller (5) is connected to the object sensor (2) [ fig.1, col.2, lines 36-53 and col.4, lines 7-23 ];
- the controller (5) generating a collision signal indicative of a potential collision as the distance are determined between the vehicle & the object (8) [ fig.1, col.2, lines 36-53 ].

Kopischke does not specifically mention the collision system having a device for determining motion properties of the object / obstacle.

Bates teaches a vehicle warning radar system (100) for collision includes a computer system (106) for determining / detecting (102,104) relative distances and speed of targeted vehicles (504,506) relate to a vehicle (100,502) [ figs.5-7, col.2, line 63 to col.3, line 59 and col.6, line 60 to col.7, line 11 ].

Therefore, it would have been obvious to one having ordinary skill in the art to employ the teaching of Bates in the system of Kopischke for detecting & determining an accurate motion signal of the object to prevent a collision between vehicle and obstacles as desired.

Regarding claim 10, Kopischke discloses a method of collision for an automobile [ fig.1,col.2, lines 20-28 and col.3, line 63 to col.4, line 23 ] comprising:

- object sensor (2) for detecting an object / obstacle (8) [ fig.1, col.2, lines 41-48 and col.3, line 63 to col.4, line 23 ];
- a controller (5) is connected to the object sensor (2) [ fig.1, col.2, lines 36-53 and col.4, lines 7-23 ];

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- the controller (5) generating a collision signal indicative of a potential collision as the distance are determined between the vehicle & the object (8) [ fig.1, col.2, lines 36-53 ].

Kopischke does not specifically mention the method of collision having a device for determining motion & velocity of the object / obstacle relative to the automobile.

Bates teaches a vehicle warning radar system (100) for collision includes a computer system (106) for determining / detecting (102,104) relative distances and speed of targeted vehicles (504,506) relate to a vehicle (100,502) [ figs.5-7, col.2, line 63 to col.3, line 59 and col.6, line 60 to col.7, line 11 ].

Therefore, it would have been obvious to one having ordinary skill in the art to employ the teaching of Bates in the system of Kopischke for detecting & determining an accurate motion signal of the object to prevent a collision between vehicle and obstacles.

The combination of Kopischke & Bates is still missing a new limitation as “kinetic energy” of the object as currently amended.

Brambilla teaches a function of the determined accident severity includes a control unit (2) is connected to a crash parameter detection system (6) for detecting the relative speed to the collision object shortly before the crash event. Based on a measured relative speed, in cases when the vehicle's own speed, a conclusion can be drawn that a vehicle is moving. On the basis of a typical vehicle mass, the kinetic energy of the colliding vehicle can be estimated [ fig.1, col.4, line 59 to col.5, line 12 ].

Therefore, it would have been obvious to one having ordinary skill in the art to have the teaching of Bates & Brambilla includes a kinetic energy function in the system of Kopischke



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which allows for determination of potential collision severity between the host vehicle and the target object more accurate and thereby further preventing injury.

Regarding claims 11-12, Kopischke discloses the controller (5) and object sensor (2) may recognize whether object / obstacle as a vehicle or person or animal or some other objects in or near the direction of motion of the vehicle [ col.4, lines 7-23 and lines 52-61 ]; and to prevent a collision of the vehicle with a obstacle by producing a controlled acceleration / deceleration and the object can be seen through a CCD camera [ col.1, lines 24-41 ].

Bates discloses the vehicle warning radar system (100) for collision includes a computer system (106) for determining / detecting (102,104) relative distances and speed of targeted vehicles (504,506) relate to a vehicle (100,502) [ figs.5-7, col.2, line 63 to col.3, line 51 and col.6, line 60 to col.7, line 11 ].

Therefore, it would have been obvious to one having ordinary skill in the art to utilize the teaching of Bates in the system of Kopischke for detecting & determining accurate motion signal of the multi objects to prevent a collision between vehicle and obstacles as desired.

Regarding claims 13-14, Kopischke discloses the controller (5) and object sensor (2) may recognize whether object / obstacle as a vehicle or person or animal or some other object which contains shape , volume, height , width information of the objects [ col.4, lines 7-23 ].

Regarding claims 15-16, Kopischke discloses a method of collision for an automobile [ fig.1,col.2, lines 20-28 and col.3, line 63 to col.4, line 23 ] comprising:

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- object sensor (2) for detecting an object / obstacle (8) [ fig.1, col.2, lines 41-48 and col.3, line 63 to col.4, line 23 ];
- a controller (5) is connected to the object sensor (2) [ fig.1, col.2, lines 36-53 and col.4, lines 7-23 ];
- the controller (5) generating a collision signal indicative of a potential collision as the distance are determined between the vehicle & the object (8) [ fig.1, col.2, lines 36-53 ];
- the controller (5) and object sensor (2) may recognize whether object / obstacle as a vehicle or person or animal or some other object which contains shape , volume, height , width information of the objects [ col.4, lines 7-23 ].

Kopischke does not specifically mention the method of collision having a device for determining motion of the object / obstacle relative to the automobile.

Bates teaches a vehicle warning radar system (100) for collision includes a computer system (106) for determining / detecting (102,104) relative distances and speed of targeted vehicles (504,506) relate to a vehicle (100,502) [ figs.5-7, col.2, line 63 to col.3, line 59 and col.6, line 60 to col.7, line 11 ].

Therefore, it would have been obvious to one having ordinary skill in the art to have the teaching of Bates in the system of Kopischke for detecting & determining an accurate motion signal of the object to prevent a collision between vehicle and obstacles as desired.

3. Claims 4, 8 & 17-20 are rejected under 35 U.S.C. 103(a) as being unpatentable over Kopischke (U.S. 6,359,553) in view of Bates et al. (U.S. 6,337,638) further in view of Brambilla et al. (U.S. 6,199,903) and further view of Miller et al. (U.S. 6,480,144).

Regarding claim 4, The combination of Kopischke, Bates & Brambilla is still missing the system comprises a collision countermeasure is connected to the controller in response to the collision signal.

Miller teaches a collision countermeasure system for an automobile (12) includes a countermeasure controller (16) in operative communication with various countermeasure device (17) as an object detection system (14) for detecting & determining the potential for a collision between objects within a close proximity of the vehicle [ fig.1, col.3, line 24 to col. 4, line 24 ].

Therefore, it would have been obvious to one having ordinary skill in the art to have the teaching of Bates, Brambilla & Miller includes a countermeasure device in the system of Kopischke for detecting & determining more accurate motion signal of the object to prevent a collision between vehicle and obstacles as desired.

Regarding claim 8, The combination of Kopischke, Bates & Brambilla is still missing the object detector is a camera.

Miller teaches a collision countermeasure system for an automobile (12) includes a object detection system (14) having a camera for detecting objects within a close proximity of the vehicle [ fig.1, col.3, lines 52-65 ].

Therefore, it would have been obvious to one having ordinary skill in the art to have the teaching of Bates, Brambilla & Miller includes a camera feature in the system of Kopischke for detecting & determining more accurate motion signal of the object to prevent a collision between vehicle and obstacles as desired.

Regarding claim 17, Kopischke discloses a method of collision for an automobile [ fig.1,col.2, lines 20-28 and col.3, line 63 to col.4, line 23 ] comprising:

- object sensor (2) for detecting an object / obstacle (8) [ fig.1, col.2, lines 41-48 and col.3, line 63 to col.4, line 23 ];
- a controller (5) is connected to the object sensor (2) [ fig.1, col.2, lines 36-53 and col.4, lines 7-23 ];
- the controller (5) generating a collision signal indicative of a potential collision as the distance are determined between the vehicle & the object (8) [ fig.1, col.2, lines 36-53 ].

Kopischke does not specifically mention the method of collision having a device for determining motion & velocity of the object / obstacle relative to the automobile.

Bates teaches a vehicle warning radar system (100) for collision includes a computer system (106) for determining / detecting (102,104) relative distances and speed of targeted vehicles (504,506) relate to a vehicle (100,502) [ figs.5-7, col.2, line 63 to col.3, line 59 and col.6, line 60 to col.7, line 11 ].

Therefore, it would have been obvious to one having ordinary skill in the art to employ the teaching of Bates in the system of Kopischke for detecting & determining an accurate motion signal of the object to prevent a collision between vehicle and obstacles as desired.

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The combination of Kopischke & Bates is still missing determining mass of the object.

Brambilla teaches a function of the determined accident severity includes a control unit (2) is connected to a crash parameter detection system (6) for detecting the relative speed to the collision object shortly before the crash event. Based on a measured relative speed, in cases when the vehicle's own speed, a conclusion can be drawn that a vehicle is moving. On the basis of a typical **vehicle mass**, the kinetic energy of the colliding vehicle can be estimated [ fig.1, col.4, line 59 to col.5, line 12 ].

Therefore, it would have been obvious to one having ordinary skill in the art to utilizing the teaching of Bates & Brambilla includes mass of the object feature in the system of Kopischke which allows for **determination of the mass of an object** and potential collision severity between a host vehicle and an object in response to that **mass determination**.

The combination of Kopischke, Bates & Brambilla is still missing performing a collision countermeasure in response to the collision signal.

Miller teaches a collision countermeasure system for an automobile (12) includes a countermeasure controller (16) in operative communication with various countermeasure device (17) as an object detection system (14) for detecting & determining the potential for a collision between objects within a close proximity of the vehicle [ fig.1, col.3, line 24 to col. 4, line 24 ].

Therefore, it would have been obvious to one having ordinary skill in the art to have the teaching of Bates, Brambilla & Miller includes a countermeasure device in the system of Kopischke for detecting & determining more accurate motion signal of the object to prevent a collision between vehicle and obstacles as desired.

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Regarding claims 18-19, Kopischke discloses a method of collision for an automobile [ fig.1,col.2, lines 20-28 and col.3, line 63 to col.4, line 23 ] comprising:

- object sensor (2) for detecting an object / obstacle (8) [ fig.1, col.2, lines 41-48 and col.3, line 63 to col.4, line 23 ];
- a controller (5) is connected to the object sensor (2) [ fig.1, col.2, lines 36-53 and col.4, lines 7-23 ];
- the controller (5) generating a collision signal indicative of a potential collision as the distance are determined between the vehicle & the object (8) [ fig.1, col.2, lines 36-53 ];
- the controller (5) and object sensor (2) may recognize whether object / obstacle as a vehicle or person or animal or some other object which contains shape , volume, height , width information of the objects [ col.4, lines 7-23 ] and

Bates teaches a vehicle warning radar system (100) for collision includes a computer system (106) for **determining** / detecting (102,104) relative **distances and speed of targeted vehicles** (504,506) relate to a vehicle (100,502) [ figs.5-7, col.2, line 63 to col.3, line 59 and col.6, line 60 to col.7, line 11 ].

Regarding claim 20, Miller discloses the collision countermeasure system for an automobile (12) includes a countermeasure controller (16) in operative communication with various countermeasure device (17) as an object detection system (14) for detecting & determining the potential for a collision between objects within a close proximity of the vehicle which comprises performing both passive & active countermeasure [ fig.1, col. 4, lines 24-39 ].

### **Responses to Arguments**

4. Applicant's argument filed on Mar. 9, 2004 have been fully considered but are moot in view of the new ground(s) of rejection.

### **Conclusion**

5. THIS ACTION IS MADE FINAL. Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire THREE MONTHS from the mailing date of this action. In the event a first reply is filled within TWO MONTHS of the mailing date of this final action and the advisory action is not mailed until after the end of the THREE MONTHS shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the mailing date of this final action.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Hung T. Nguyen whose telephone number is (703) 308-6796. The examiner can normally be reached on Monday to Friday from 8:00am to 5:30pm.

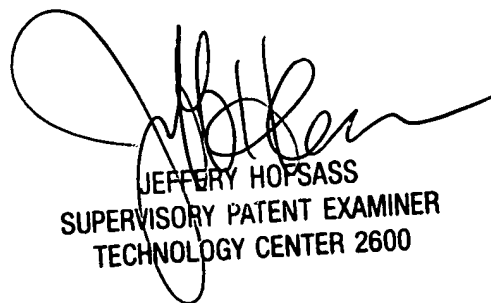
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If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Hofsass, Jeffery can be reached on (703) 305-4717. The fax phone number for this Group is (703) 872-9314.

Any inquiry of a general nature or relating to the status of this application or proceeding should be directed to the Group receptionist whose telephone number is (703) 305-4700.

Examiner: Hung T. Nguyen

Date: May 1, 2004



JEFFERY HOPSASS  
SUPERVISORY PATENT EXAMINER  
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